



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

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Phone 800-227-8917
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January 8, 2016

Ref: 8EPR-N

U.S. Army Corps of Engineers, Omaha District
CENWO-PM-AC
Attn: Brent Cossette
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

Re: Dakota Access Pipeline Draft Environmental Assessment

Dear Mr. Cossette:

Thank you for the opportunity to review the U.S. Army Corps of Engineers (USACE) Dakota Access Pipeline Draft Environmental Assessment (EA) posted on December 28, 2015. Our comments are provided for your consideration pursuant to our responsibilities and authority under Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

The project proponent's website¹ describes the proposed Dakota Access Pipeline as a 1134-mile, 12-inch to 30-inch diameter pipeline crossing four states; transporting crude oil from the Bakken/Three Forks oil fields in North Dakota to Illinois. The segment of the project in North Dakota is estimated to be 358 miles long; including a 210-mile main pipeline and a 148-mile supply line. The proposal also includes six tank terminal sites and 3 to 6 booster and mainline pumps (Page 832 of 966 of EA, Appendix H).

We have reviewed the Draft EA and provide these comments in an effort to ensure the project's potential environmental impacts are adequately analyzed, disclosed and minimized, or avoided. As detailed below, our main concerns with Draft EA document for the North Dakota segment of Dakota Access pipeline are: (1) the document lacks sufficient analysis of direct and indirect impacts to water resources, (2) the document lacks information on the measures that will be required to assure that impacts from construction and operation of the pipeline are not significant, and (3) the scope of the document is limited to small portions of the complete project and does not identify the related effects from the entire project segment. We recommend these issues be addressed in the Final EA in order to meet the requirements of the NEPA regulations and in order to support for a Finding of No Significant Impact (FONSI).

¹ <http://www.dapipelinefacts.com/>

Our review of the Draft EA was substantially limited by missing information and by the limited scope of the EA. For example:

- Figures 1 through 13, the maps showing the project layout that are referenced in document index, were not included in the posted document.
- The environmental impact analysis appears to focus exclusively on two small segments of the pipeline crossing Corps lands at Lake Oahe and the Missouri River above Lake Sakakawea and there was no information included on the overall impact of the project to water resources.
- Other than impacts from storm water during construction, our review did not find the analysis of the environmental impacts of constructing and operating the approximately 358 miles of proposed pipelines in North Dakota.
- The EA also did not include potential impacts from the six proposed receiving stations/tank farms collecting oil for the pipeline.

This EA contrasts with the two other recent USACE EAs for crude oil pipelines, Bakkenlink and Sakakawea. Both those EA more thoroughly analyzed potential environmental effects for the length of the pipelines.

To provide a revised EA that supports a mitigated FONSI, we recommend the following:

1. The EA should describe the design, operational and planning measures that will be required for protection of water resources from spills and leaks. These include information on the monitoring equipment, valve locations, pipeline design measures and procedures; Dakota Access would implement to prevent and respond to leaks and spills from the pipeline and associated facilities. The analysis should also describe what measures would be in place to enable the operator(s) to quickly detect and locate leaks and spills, limit the volume of any release, and identify the maximum expected spill volume given those measures. For example, will there continuous monitoring for abnormal pressures in the pipeline? For additional details on the types of emergency preparedness measures that should be included in the EA, please see the EPA Region 8's comments on the Sakakawea Pipeline System Environmental Assessment Addendum, dated December 23, 2015 (enclosed).
2. The water resources impacts section of the EA should be expanded to discuss affected water resources and potential impacts from construction and operation of the pipeline for the segment of the pipeline covered by the North Dakota EA. For example, the EA should identify potentially affected waterbodies, designated water uses (water quality standards), identify impaired waterways, drinking water intakes and aquifers, etc. The enclosed Sakakawea Pipeline letter also provides additional details on potential water quality impacts.

The proposed pipeline crosses several important glacial drift and alluvial aquifers. Groundwater in this area tends to be of poor quality, so the alluvial aquifers and particularly the glacial drift aquifers can be important sources of drinking and agricultural water. For more information please see the "North Dakota Source Water Assessment Program, Strategic Plan."² The State Water Quality Commission and the USGS have also prepared a series of County Ground-Water

² Dated 1999 at <https://www.ndhealth.gov/wq/gw/pubs/swap.pdf>.

resources. For example the Dunn County study³ discusses the aquifer used by the Town of Killdeer as well as other domestic and livestock groundwater uses.

3. The EA should identify potential wetlands within the construction foot print or easement of the entire segment of the proposed pipeline. Currently, the document does not include any information on impacts to wetlands and other waters of the U.S. outside of pipeline segments on Corps Fee Land (Sections 2.3.2.7, 2.3.2.8 and 3.2.3 -- Wetlands). Estimating the proposed route (as maps were not included in the EA), it appears that the pipeline would cross a number of larger (for western North Dakota) perennial streams which may warrant site-specific delineation of Waters of the U.S. and potentially require an individual 404 permit. For example, it appears the pipeline will cross the Little Missouri River, Heart River, and Spring and Beaver Creeks.

For major pipeline projects in the western U.S., such as the Dakota Access, we typically see the proponent develop specific mitigation measures to reduce impacts to streams crossings. There have been a number of FERC⁴ EISs for natural gas pipelines that have done a good job balancing the protection of water and aquatic resources with simplifying construction requirements. We recommend the EA be revised to discuss the use of the Nationwide 404 permit to mitigate impacts to smaller wetlands/waters of the U.S. and identify additional mitigation measures and procedures for crossing perennial streams or streams that have greater potential for impacts to wetlands/waters of the U.S. or other areas of aquatic habitat.

4. Because they are integral components of the overall project, the EA should include information related to the tank farms and associated impacts. The current Draft EA does not evaluate the environmental impacts of constructing and operating six terminals stations/tank farms and 258 miles of pipelines. Specifically, we recommend a discussion of:
 - Location of tank farms;
 - Information on whether the receiving station/tank farms have been located to avoid or reduce impacts to surface and ground waters. In particular, it would be useful to identify whether the facilities been sited over shallow groundwater resources or near any sources of drinking water or critical wildlife areas. Ideally, this EA would document that these facilities do not present a risk to aquatic or drinking water resources.
 - Facility design features and operational controls to avoid and minimize impacts to surface and groundwater. We note that there is an SPCC⁵ plan for construction; however, no plans were included or referenced for proposed terminals/tank farms.

The environmental assessment is a very large document with 966 pages including appendices. For the revised EA, we recommend evaluating the information in the appendices as it appear some of the information could be deleted or summarized in the revised EA. For example, it appears that portions of the directional drilling construction planning appendix have been included four times.

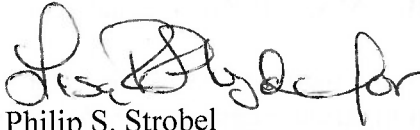
³ http://www.swc.nd.gov/info_edu/reports_and_publications/county_groundwater_studies/pdfs/Dunn_Part_III.pdf.

⁴ Federal Energy Regulatory Commission

⁵ Spill Prevention, Control, and Countermeasure Plan under the Oil Pollution Act

Thank you for the opportunity to provide comments on the Draft EA for the North Dakota segment of the Dakota Access Pipeline. Based the information and impact assessment gaps identified above, and lack of identified mitigation measures to protect water resources and public health, it does not appear the Dakota Access Pipeline Draft EA would support a FONSI. Based on our experience with similar projects, we believe that information and mitigation could be added to the EA in order to support a mitigated FONSI. If further explanation of our comments is desired, please contact me at (303) 312-6704, or your staff may contact Dana Allen at (303) 312-6879 or by email at allen.dana@epa.gov. We look forward to reviewing the revised EA and the Draft FONSI when available.

Sincerely,

A handwritten signature in black ink, appearing to read "Philip S. Strobel for".

Philip S. Strobel
Director, NEPA Compliance and Review Program
Office of Ecosystems Protection and Remediation

Enclosure



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DEC 23 2015

Ref: 8EPR-N

U.S. Army Corps of Engineers, Omaha District
CENWO-PM-AC
Attn: Rebecca Podkowka
1616 Capitol Avenue
Omaha, NE 68102-4901

Re: Sacagawea Pipeline System Environmental Assessment Addendum

Dear Ms. Podkowka:

Thank you for the opportunity to review the U.S. Army Corps of Engineers (USACE) Environmental Assessment (EA) Addendum regarding the proposal from Paradigm Midstream Services (Paradigm) for the Sacagawea Pipeline System in North Dakota. We have reviewed the EA Addendum and other online information as posted on December 10, 2015, and we provide these comments in an effort to ensure that the project's potential environmental impacts are adequately analyzed, disclosed and minimized or avoided. Our comments are provided for your consideration pursuant to our responsibilities and authority under Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

Because Lake Sakakawea supplies drinking water and recreational opportunities to the communities in and near the Fort Berthold Indian Reservation (FBIR), we believe that additional mitigation measures may assist you in supporting a FONSI by providing added assurance that this high value resource is adequately protected from the project's potential impacts. We note that the USACE's EA Addendum incorporates by reference the Bureau of Indian Affairs (BIA) August 2015 EA and Finding of No Significant Impact (FONSI) regarding the Sacagawea Pipeline System. In a February 11, 2015 scoping letter to the BIA, the EPA requested the opportunity to review the BIA's Draft EA and Draft FONSI when they became available (see Enclosure). Unfortunately, we were not afforded that opportunity. Given that the USACE's decision is specific to the issuance of a realty permit and authorization of the Lake Sakakawea crossing, we have focused our review and recommendations on that portion of the proposed project.

Background

The EA Addendum analyzes the environmental impacts of a proposal by Paradigm Midstream Services-ND, LLC (Paradigm) to construct a 70-mile long oil and natural gas pipeline system and associated access roads in McKenzie and Mountrail Counties, North Dakota. In addition to crossing under approximately 7,500 feet of USACE-managed submerged lands, the proposed pipeline would cross private, state, and FBIR fee lands (approximately 41.5, 3.0, and 22.0 miles, respectively) and 3.26 miles

of allotted lands within the FBIR boundary. It is our understanding that the 3.26 miles of the pipeline proposed for crossing the FBIR allotted lands were the subject of the BIA's August 2015 FONSI. The USACE's EA Addendum is intended to support its decision for the approximately 7,500 feet of the proposed pipeline system that requires USACE approval to pass underneath Lake Sakakawea.

The proposed project consists of constructing two co-located 16-inch diameter welded steel pipelines – one for crude oil and one for natural gas. The portions of the proposed system on uplands would be installed by trenching to an average buried depth of approximately 6 feet. Horizontal directional drilling will be used for installation of the pipeline system in areas where necessary to reduce environmental impacts, e.g., Lake Sakakawea and other waterways, roads, and wooded draws. Two separate directionally drilled holes 200-250 feet beneath Lake Sakakawea are proposed to allow installation of the pipeline system. Automated mainline block valves are proposed on each side of the Lake Sakakawea crossing and would be remotely monitored 24 hours/day. The valves can also be operated manually. In addition, a mechanical check valve will be installed on the east side of the lake crossing to prevent backflow of product.

Surface Water Resources and Emergency Response and Spill Prevention Measures

Section 3.3.1 Surface Water

Affected Environment

We recommend that the EA Addendum consider potential impacts to impaired water bodies within and/or downstream of the project area. Specifically, we recommend including the waterbody segment identification number, impairment status, and cause of the impairment according to North Dakota's most recent Integrated Report (2014), along with a link to North Dakota's report. If the project has the potential to contribute pollutants related to an existing impairment, then it will be important to collaborate with the North Dakota Department of Health to ensure that the project is implemented in a manner consistent with their requirements and to prevent any worsening of the impairment.

Potential Impacts

Contaminants from surface events such as spills and pipeline leaks have the potential to enter and impact surface water resources if these events occur in close proximity to water bodies. While we recognize that Paradigm proposes to use horizontal directional drilling for the Lake Sakakawea crossing as a protective measure, we also note that the proposed pipeline crossing traverses rugged and remote topography on both sides of the Lake Sakakawea crossing. Spills in such locations are difficult to remediate, and impacts to aquatic ecosystems can be significant. The EPA recommends that Paradigm consider construction of a double-walled pipeline through sensitive ravines and ecosystems. A double-walled pipeline would provide secondary containment in the event of a product leak. We also recommend that consideration be given to mitigation measures in these sensitive areas, such as installation of additional automated mainline valves or other appropriate measures to minimize releases. Although the EA Addendum describes the risk of a spill as low, the proximity of the pipeline to drinking water sources

and sensitive ecosystems makes it prudent that pipelines crossing Lake Sakakawea include the current state-of-the-art precautions and preventative measures to protect these resources.

The EA Addendum notes that any spill would be handled through implementation of a spill prevention, control, and countermeasures plan to minimize potential impacts to any surface waters. However, the details of the plan are not provided. Below we reiterate the recommendations we provided to the BIA in our February 2015 scoping letter for this project. In addition, based on lessons learned from recent spills into the Yellowstone River in Montana, we have recommendations for additional measures that are important for consideration in the Paradigm proposal.

Emergency Preparedness Measures: The EA Addendum notes that Paradigm proposes to utilize the Supervisory Control and Data Acquisition (SCADA) system to monitor for abnormal pressures in the pipeline. We recommend that the NEPA analysis describe the size of leak that can be detected by SCADA, the time that would be required for detection and shutoff of the pipeline, and the size of a spill that could occur during that time period. It may be appropriate to require routine physical inspections in sensitive surface water and groundwater areas to augment the ability of the SCADA system to identify small volume leaks. For the sections of the pipeline in close proximity to sensitive water resources, we recommend consideration be given to the numerous alternative systems that are available with more accurate rapid detection abilities than SCADA and establishment of a network of sentinel or monitoring wells along the pipeline, especially in sensitive areas with hydrologic connection to Lake Sakakawea. If you haven't already done so, it may be useful to consult on this NEPA analysis with the Department of Transportation's Pipeline and Hazardous Materials Safety Administration. We can provide contact information if that would be helpful.

Although the EA Addendum notes that there is minimal risk of an oil spill associated with this project, our experience in spill response indicates that a break or leak in product pipelines can result in significant impacts to water resources. Despite the BIA's and USACE's expectation of a low probability of a significant spill reaching the lake, the proposed pipeline location of only four miles above the Mandaree drinking water intake would allow for a very short notice if a discharge occurs. We recommend that Paradigm adequately plan, prepare and train for such an event and that the EA Addendum include a requirement to work with the local water districts on spill response strategies and equipment specific to the drinking water intakes in and near the project (*e.g.*, surface water intakes for Mandaree, Four Bears, Twin Buttes, White Shield and Parshall).

Further, we recommend the NEPA analysis describe additional mitigation measures regarding emergency preparedness to reduce the impacts in the event of a spill. Useful measures include the following:

- Emergency response plan that addresses oil spill response (including a cold weather/ice cover response) and identifies the appropriate agencies/organizations and responsible staff to contact in the event of an emergency response;
- Procedures for rapid notification to PWS systems (*e.g.*, New Town PWS, which is hydrologically connected to Lake Sakakawea, and Lake Sakakawea PWS systems) and domestic well owners;

- Pre-positioned response assets, including equipment to address oil spills; and
- Spill drills and exercises that include strategies and equipment deployment.

In responding to both the January 2015 Bridger Poplar Pipeline and the July 2011 Exxon Silvertip Pipeline spill incidents, we learned that depth of cover surveys on a trenched pipeline during or immediately after significant hydrological events would be beneficial. We recognize that depth of cover surveys would not be applicable to Paradigm's proposed Lake Sakakawea crossing due to the use of horizontal directional drilling to bore well below the lake bottom; however, such surveys may be appropriate for water body crossings that will not use this drilling technique. For this project, surveys could be triggered by a historically high river stage or the observation of ice damming at the location of the pipeline crossing. We recommend that the EA Addendum assess and discuss the potential for scour and consider the inclusion of on-going depth of cover surveys associated with hydrological events.

In responding to the 2015 Bridger Poplar Pipeline spill, we noted that the prolonged oil/water contact and lack of evaporative loss due to ice cover caused a much larger than expected concentration of dissolved-phase organics making it to the subsurface intake at the water treatment plant. This is likely a unique situation to Bakken crude released into an iced-over waterbody. Therefore, we recommend that EA Addendum note that a winter response on ice for a spill scenario involving Bakken crude actually can be more difficult than a "typical" ice response. In addition, we recommend that Paradigm include planning for winter response scenarios in their oil spill contingency plans, including measures to ensure that staff are adequately trained for a potential winter response and that an oil spill response organization with winter response capabilities has been identified.

Closing

Thank you for the opportunity to provide comments on the EA Addendum for the Sacagawea Pipeline System. If further explanation of our comments is desired, please contact me at (303) 312-6704, or your staff may contact Amy Platt at (303) 312-6449 or by email at platt.amy@epa.gov. We request the opportunity to review and comment on the Draft FONSI when available.

Sincerely,



Philip S. Strobel
Director, NEPA Compliance and Review Program
Office of Ecosystems Protection and Remediation

Enclosure

cc: Mark Herman, BIA



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FEB 11 2015

Ref: 8EPR-N

Mark Herman, Bureau of Indian Affairs
c/o Boe Gregson, Office Director
SWCA Environmental Consultants
116 North 4th Street, Suite 200
Bismarck, ND 58501

Re: Scoping Comments for Sacagawea Pipeline System

Dear Mark:

Thank you for the opportunity to provide scoping comments for the Bureau of Indian Affairs (BIA) Environmental Assessment (EA) regarding the Sacagawea Pipeline System. We have reviewed the information provided in the January 12, 2015 notice to interested parties, and we provide these comments in an effort to ensure that the project's potential environmental impacts are adequately analyzed, disclosed and minimized or avoided. Our comments are provided for your consideration pursuant to our responsibilities and authority under Section 102(2)(C) of the National Environmental Policy Act (NEPA), and Section 309 of the Clean Air Act.

If the BIA finds that this project poses a substantial risk to drinking water supplies and other resources of Lake Sakakawea, the EPA would recommend that the BIA consider completing a full environmental impact statement (EIS). Because Lake Sakakawea supplies drinking water and recreation to tribal communities, any impacts from spills to this lake may disproportionately affect environmental justice (EJ) communities. An EIS process would typically include additional opportunities for public input and consideration of a broader range of alternatives. We recommend that this document identify and evaluate an alternative that would reduce or avoid disproportionate impacts to EJ communities. If the EA route is pursued, then we request the opportunity to review the Draft EA and Draft Finding of No Significant Impact (FONSI) when they are available.

Background

The NEPA analysis will analyze the environmental impacts of a proposal by Paradigm Midstream Services-ND, LLC (Paradigm) to construct a 60-mile long oil and natural gas pipeline system consisting of two co-located 16-inch diameter welded steel pipelines and associated temporary access roads. Approximately 25 miles of this Sacagawea Pipeline would be located within the Fort Berthold Indian Reservation (FBIR) and would impact approximately 280 acres there. The proposal includes construction within a 100-foot-wide right-of-way (ROW) with an average buried depth of six feet.

Along its total length, the Sacagawea Pipeline would cross privately owned lands, state trust lands, FBIR lands, and U.S. Army Corps of Engineers (Corps) lands in North Dakota. The pipeline corridor would begin at Paradigm's proposed Central Delivery Point Facility approximately two miles south of Keene, travel east and enter the FBIR, then cross under Lake Sakakawea and travel northeasterly across the Van Hook peninsula before exiting the FBIR east of New Town. The pipeline would then continue north and tie into Paradigm's proposed Palermo Pipeline approximately three miles south of Stanley.

Based on a review of the preliminary information available for the Sacagawea Pipeline, we recommend including information in the NEPA analysis to ensure a complete analysis of whether significant impacts to public health or the environment could result from the proposed project. Specifically, key issues to address include the following: (1) environmental justice; (2) groundwater and surface water resources; (3) emergency preparedness; (4) air resources; and (5) greenhouse gas emissions and climate change.

(1) Environmental Justice Analysis

As you are aware, Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," applies to federal agencies that conduct activities that substantially affect human health or the environment. Consistent with this executive order and the CEQ guidance on Environmental Justice under NEPA (available along with other EJ resources at <http://www.epa.gov/compliance/nepa/nepaej/index.html>), the EPA recommends the NEPA analysis include the following:

- Identification of any minority, low-income and tribal communities within the geographic scope of the impact area, including the sources of data and a description of the methodology and criteria utilized. The EPA recommends comparing census block group percentages (if available, or, at a minimum, census tract data) for below poverty and minority populations with the state average or other appropriate reference population. If a block group percentage is greater than 50% or meaningfully greater than the reference population, then we recommend performing a detailed assessment of environmental justice and other socioeconomic concerns for any environmental justice communities, to the extent information is available, including:
 - A discussion of the potential direct, indirect and cumulative environmental impacts of the proposed project on the health of these communities, including air quality and water quality and impacts. Health risks to environmental justice communities from the proposed pipeline may include potential oil spill risks and air emissions from the refining process.
 - An evaluation of the socio-economic impacts to the local communities, including the potential for any additional loading placed on local communities' abilities to provide necessary public services and amenities.
 - A determination of whether there may be disproportionately high and adverse human health or environmental effects, including cumulative impacts, on the identified communities.
- Mitigation measures or alternatives to avoid or reduce any disproportionate adverse impacts. We recommend involving the affected communities in developing the measures. The EPA recognizes the need for early involvement of the local communities, and supports the meaningful participation of community representatives in the NEPA process.

(2) Groundwater and Surface Water Resources

Existing Conditions

We recommend that the NEPA analysis describe existing surface water and groundwater resources within the project area with the following information:

- A map and summary discussion of groundwater and surface water resources in the project area.
- Identification of water uses within the project area, including:
 - All source water protection areas (i.e., Drinking Water Source Protection Zones designated by the State of North Dakota; Municipal Watersheds).
 - Surface water and groundwater use, including the location and source identification of agricultural, domestic and public water supply wells, springs, or surface water intakes within one mile of the proposed pipeline.
- Baseline data on the condition and quality of surface water resources, and where appropriate and possible, reasons why these resources have been impacted, including:
 - Lists of any Clean Water Act (CWA) impaired or threatened waterbody segments within or downstream of the project area, including the designated uses of the water bodies and the specific pollutants of concern.
 - Inventories and maps of existing wetlands and other waters within the project area, including wetlands that are regulated under Section 404 of the CWA and wetlands that are determined to be non-jurisdictional. Where project impacts are likely, include acreages and channel lengths, habitat types, values, and functions of these waters.
- Baseline data on groundwater resources, with particular emphasis on the following:
 - Major aquifers in the project area;
 - Location and extent of the groundwater recharge areas; and
 - Location of shallow and sensitive aquifers that may be susceptible to contamination from surface activities.

Clean Water Act Waters of the United States

Discharge of dredged or fill material into waters of the United States (U.S.), including wetlands, is regulated under CWA Section 404. This permit program is administered jointly by the U.S. Army Corps of Engineers (Corps) and the EPA. Please consult with the Corps to ensure that the environmental review meets the requirements of both NEPA and CWA Section 404. Should a general permit/nationwide permit be made available to the project proponent, please be aware of special conditions for these permits that protect wetlands and other special aquatic sites in the proposed ROW.

The Corps can assist with the determination of both non-jurisdictional waters and jurisdictional waters of the U.S. potentially impacted by this project. As noted above, we recommend that the NEPA analysis include a map that identifies all waters, including waters of the U.S. (e.g., streams, wetlands) within the project area. We also recommend identification and disclosure of which waters, including waters of the U.S., may be directly and indirectly impacted by pipeline construction activities such as those that may result from lowering groundwater adjacent to wetlands due to ditch construction or drainage from

porous pipeline bedding materials. In addition, we recommend including an estimate of the potential impacted acreage of wetlands and linear feet of stream, as well as the types of wetlands and streams (e.g., year round flows, ephemeral and intermittent). We recommend avoidance, minimization and mitigation of all wetland impacts as directed under Executive Order 11990 – Protection of Wetlands.

For impacts to aquatic resources, including wetlands, we recommend that mitigation be consistent with the 2008 Rule on Compensatory Mitigation for Losses to Aquatic Resources. At a minimum, we recommend the NEPA analysis include a conceptual mitigation plan for potentially impacted waters. The scope of this plan will depend on the extent of both direct and indirect unavoidable impacts. We also recommend the NEPA analysis identify potential mitigation sites as close to the impacted area as possible, preferably within the effected sub-watershed. To support a FONSI and ensure that wetlands are adequately protected, it may be necessary to consider exclusion of construction activities in areas where wetlands or riparian areas would be adversely impacted.

The use of functional replacement-based mitigation is often preferred to an acre-to-acre replacement approach since it ensures that the specific wetland functions are replaced in an ecosystem. Because replacement wetlands may have lower functions and values, acre-to-acre replacement may result in a net loss of wetland functions. In order to identify wetland functions and values, we recommend a functional assessment or comparable method (e.g., the Summit Wetland Assessment Method) be conducted if functional replacement-based mitigation is necessary for this project.

Avoidance of Surface Water Quality Impacts Including Potential Impacts to Lake Sakakawea

The proposed pipeline system would cross under Lake Sakakawea, an important drinking water resource. The required trenching of the pipeline into the lake bottom would create the potential for water quality impacts. Suspended sediments can pose a risk for public drinking water filtration systems. In addition, there would be the potential for a pipeline leak or spill to impact water quality in the lake. Therefore, we recommend that the NEPA analysis include information on the existing water quality of Lake Sakakawea, drinking water intake locations, and water quality protection measures necessary to support a FONSI. We recommend that such protection measures include required best management practices to prevent sediment impacts during construction, use of enhanced leak detection methods in areas where the pipeline system would be in close proximity to sensitive water resources, and siting of shutoff valves where they will best protect water quality in the lake in the case of a leak or spill.

We recommend that the NEPA analysis consider potential impacts to impaired water bodies within and/or downstream of the planning area. For example, Lake Sakakawea, which is located both within and outside the boundaries of the FBIR, has been identified as impaired for methyl mercury. We recommend coordinating with our Ecosystems Protection Program and the North Dakota Department of Health if there are identified potential impacts to impaired water bodies (in order to avoid causing or contributing to the exceedance of water quality standards). We can provide contact information if that would be helpful. Where a Total Maximum Daily Load (TMDL) exists for impaired waters in the area of potential impacts, pollutant loads should comply with the TMDL allocations for point and nonpoint sources. Where TMDL analyses for impaired water bodies within, or downstream of, the planning area

still need to be developed, we recommend that proposed activities in the drainages of CWA impaired or threatened water bodies be either carefully managed to prevent any worsening of the impairment or avoided altogether where such impacts cannot be prevented.

It is unclear from preliminary information what method(s) are being contemplated for waterbody crossings associated with the project. We recommend that impacts to surface water bodies be avoided and minimized to the maximum extent practicable during waterbody crossings. Where feasible, we recommend the use of horizontal directional drilling (HDD) for the pipeline routing under all water crossings and their associated floodplains and wetlands. We also recommend including an HDD contingency plan in the NEPA analysis to address potential modes of failure and mitigation measures for each phase of the drilling process.

If open-cut waterbody crossings are proposed, we recommend that mitigation measures be used to stabilize and return stream banks to preconstruction contours and that waterbody crossing areas be graded and re-vegetated immediately following construction. We support an overall goal to return construction sites to natural, preconstruction conditions.

In addition, we recommend providing a detailed analysis of methods that will be required to reduce suspension of sediment in the lake waters, such as turbidity curtains. A detailed description of a turbidity monitoring plan, including monitoring locations and the turbidity level that would trigger a stop in construction, is essential.

We also recommend that the NEPA analysis describe specific measures that Paradigm will undertake to prevent and detect leaks and spills, such as strategic placement of valves along the pipeline route, installation of leak detection equipment, increased frequency of inspections, and establishment of a network of sentinel or monitoring wells along the pipeline, especially in sensitive areas with hydrologic connection to Lake Sakakawea. It will be important to specify the pipeline inspection methods and frequency that will be required for the segment below Lake Sakakawea. It will also be important for the document to identify the maximum volume of oil or gas that could be spilled to Lake Sakakawea given the proposed leak detection and valve design. If you haven't already done so, it may be useful to consult on this NEPA analysis with the Department of Transportation's Pipeline and Hazardous Materials Safety Administration. We can provide contact information if that would be helpful.

Protection of Groundwater Quality

Based on preliminary information, it appears that the pipeline system may cross surficial aquifers, including New Town and White Shield, as it traverses the FBIR. These surficial aquifers are shallow and unconfined buried valley aquifers that are used as a source of drinking, stock or irrigation water. The New Town aquifer supports a public water supply (PWS) system. It appears that the proposed pipeline also may cross within close proximity to groundwater wells for public drinking water supplies, including known domestic groundwater wells. Because a potential spill or leak from the proposed pipeline would pose a serious risk to drinking water users in these sensitive groundwater areas, we recommend that the NEPA analysis provide information on the leak detection and shutoff capabilities of the pipeline system

that will be required to protect groundwater drinking water resources and support a FONSI. We recommend that shutoff valves be located where they can best protect these shallow groundwater resources.

(3) Emergency Preparedness Measures

It is our understanding that the majority of oil and gas operators on the FBIR use the supervisory control and data acquisition (SCADA) system, which allows for rapid detection of issues such as loss of pressure in a pipeline. We assume the Sacagawea Pipeline Project will utilize this technology. We recommend that the NEPA analysis describe the size of leak that can be detected by SCADA, the time that would be required for detection and shutoff of the pipeline, and the size of a spill that could occur during that time period. It may be appropriate to require routine physical inspections in sensitive surface water and groundwater areas to augment the ability of the SCADA system to identify small volume leaks. For the sections of the pipeline in close proximity to sensitive water resources, we recommend consideration be given to the numerous alternative systems that are available with more accurate rapid detection abilities than SCADA.

Further, we recommend the NEPA analysis describe additional mitigation measures regarding emergency preparedness to reduce the impacts in the event of a spill. Useful measures include the following:

- Emergency response plan that addresses submerged oil, as well as floating oil, including a cold weather/ice cover response;
- Procedures for rapid notification to PWS systems (e.g., New Town and Lake Sakakawea PWS systems) and domestic well owners;
- Pre-positioned response assets, including equipment that can address submerged oil; and
- Spill drills and exercises that include strategies and equipment deployment to address floating and submerged oil.

(4) Air Resources

It is important that the NEPA analysis disclose current air quality conditions in the project area as well as potential air quality impacts associated with the proposed project. We recommend that the NEPA analysis include a description of emission sources and an emissions inventory of direct, indirect and cumulative emissions associated with the proposed pipeline system. It would be appropriate for the emissions inventory to include direct emissions generated during construction, operation and reclamation of the project and for the document to describe indirect emissions associated with oil and natural gas production and processing.

If emissions are substantial, then a logical next step would be to quantitatively evaluate the direct, indirect and cumulative impacts of the proposed pipeline system on the following:

- Each of the criteria pollutants and their appropriate National Ambient Air Quality Standard (NAAQS), i.e., ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead;

- Prevention of Significant Deterioration (PSD) increment comparison at Class I and sensitive Class II Areas;
- Hazardous air pollutants (HAPs), i.e., acetaldehyde, benzene, ethyl benzene, formaldehyde, methanol, n-hexane, toluene, xylene, and any other compounds that the BIA identifies as potential HAPs associated with the proposed project; and
- Air Quality Related Values, including visibility, in Class I and sensitive Class II areas.

It also may be appropriate for the NEPA analysis to qualitatively assess the impacts outlined above along with referencing any cumulative impacts predicted in the BIA's air quality analysis currently being prepared as part of its Programmatic EA for Oil and Gas Development on FBIR. We are available to discuss these options for analysis if that would be helpful.

If adverse air impacts are predicted, we recommend that the BIA identify mitigation measures (including control measures and design features) it would apply. We recommend that the NEPA analysis describe the selected methods for protecting air resources and the regulatory mechanisms the BIA will use to ensure their implementation, where possible.

The EPA recommends the NEPA analysis include a plan for addressing dust control given the often dry and windy conditions in the project area. We suggest the plan include dust suppression methods and the level of required or anticipated control, inspection schedules, and documentation and accountability processes. Given the challenges with reclamation in the project area, we recommend reducing surface disturbance to effectively reduce fugitive dust.

(5) Greenhouse Gas Emissions and Climate Change

We recommend that climate change issues be analyzed consistent with CEQ's December 2014 revised draft guidance for Federal agencies' consideration of GHG emissions and climate change impacts when conducting environmental reviews under NEPA. Accordingly, we recommend the NEPA analysis include an estimate of the greenhouse gas (GHG) emissions associated with the project, qualitatively describe relevant climate change impacts, and analyze reasonable alternatives and/or practicable mitigation measures to reduce project-related GHG emissions. More specifically, we suggest the following approach:

- Estimate the anticipated GHG emissions associated with the Sacagawea Pipeline Project. In addition to emissions associated with construction, operation and reclamation activities for the proposed project, we recommend calculating reasonably foreseeable upstream and downstream emissions to the extent those activities have a reasonably close causal relationship to the project. We also note that leaks associated with natural gas gathering and transmission line infrastructure and operations are known sources of fugitive methane emissions (e.g., compressors, pneumatic devices, valves, pigging operations and other maintenance activities). Thus, we recommend that potential sources of fugitive methane emissions be discussed, and that those emissions be included in the GHG emissions estimate, where possible. While not addressed in the draft guidance, it may also be useful to estimate GHG emissions in CO₂-

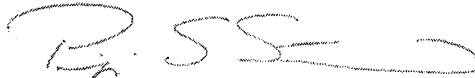
equivalent terms and translate the amount into equivalencies that are more easily understood by the public (see, <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>).

- Include a summary discussion of ongoing and projected regional climate change impacts relevant to the project, based on U.S. Global Change Research Program assessments, to assist with identification of potential project impacts that may be exacerbated by climate change and to inform consideration of measures to adapt to climate change impacts.
- The estimated level of GHG emissions from the project and its alternatives can serve as a reasonable proxy for assessing the potential effects of the proposed action on climate change. It may also be useful to address consistency of estimated GHG emissions with any existing relevant Regional, Tribal or State climate change plans or goals.
- Assess and identify measures to reduce GHG emissions associated with the project, including alternatives and/or potential requirements to mitigate emissions. Such measures could include consideration of renewable energy resources to address energy needs for compressor stations and other facilities. We recommend that the BIA identify and implement reasonable measures to reduce GHG emissions, including fugitive methane emissions. A comparison of alternatives based on GHG emissions and any potential mitigation measures to reduce such emissions, would be useful to the decision maker and the public.

Closing

Thank you for the opportunity to provide scoping comments for the Sacagawea Pipeline System. If further explanation of our comments is desired, please contact me at (303) 312-6704, or your staff may contact Amy Platt at (303) 312-6449 or by email at platt.amy@epa.gov. Again, if it is determined that an EA is the appropriate level of analysis for this project, we look forward to the opportunity to review and comment on the Draft EA and Draft FONSI when available.

Sincerely,



Philip S. Strobel
Acting Director, NEPA Compliance and Review Program
Office of Ecosystems Protection and Remediation

cc: Marilyn Bercier, BIA